



# Installer Manual

airtouch.net.au

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## Liability

Please read the instructions before installing this AirTouch Zoning Control System. Polyaire Pty Ltd does not accept any responsibility for loss or damage that may occur as a result of the incorrect installation of this AirTouch Control System.

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## **Compatible Brands**

## Panasonic SAMSUNG



















HITACHI







**BONAIRE®** 

## 1. Components

#### 1.1 Console

Users can input control commands from the console to turn on or off a group/zone or AC. It is used to input all parameters. The color LCD displays clock, zone, WiFi, AC, temperature and other statuses.

# 1.2 Main Control Module and Extension Module (optional)

Main control module (8 zones) and its optional extension module (extra 8 zones) control the position of motorized damper of each zone.

### 1.3 Motorized Damper (Bright Green)

Motorized dampers drive the blade of the damper to adjust the air supply.

#### 1.4 Cables

Cables with left latch or central latch plugs connect the main control module, extension module (if applicable), console, and motorized dampers together.

### 1.5 Supply Air Sensor (optional)

Supply air sensor measures the temperature of the supply air for auto mode recognition.

### 1.6 Power Supply

24VAC transformers provide power to the main and extension modules.

### 1.7 AC Gateways (optional)

AC gateways are for full control of most major brand ducted systems such as Daikin, Panasonic, Fujitsu, Mitsubishi Electric, Mitsubishi Heavy Industries, Toshiba, LG, Hitachi, Samsung, Carrier, Rinnai, Midea, Braemar and Gree. Each gateway comes with a RS485 cable for

connecting the gateway with AirTouch 4.















## 1. Components contd.

### 1.8 Wireless temperature sensor

Wireless sensors are used for group temperature and On/Off control. Each group can have up to two wireless temperature sensors. The wireless sensors send measured room temperature or On/Off command back to main module regularly. They are driven by button type battery and have dipswitches for their own identification.



## 2. Configuration

AirTouch 4 System is a star architecture system that allows communications between AirTouch 4 main control module, extension module, AC unit, WiFi router (to connect to smart phones and internet), up to 16 zone dampers, wireless temperature sensors and up to two consoles. Figure below shows the connection of devices such as the WiFi router, AC indoor PCB, extension module, two consoles, and eight dampers to the main module.

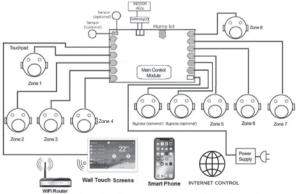


Figure 1: AlrTouch 4 Main Control Module connected to AC Indoor Board, WIFI router, Smartphone and 8 Dampers

Eight motorized dampers can be connected to the main control module. Nine dampers and above (up to 16) will need the extension module.

The wiring of the AirTouch 4 system is straightforward. A cable with central latched plugs connects a motorized damper to the relevant output port clearly marked on the main or extension module. Figure below shows the connection of eight dampers to the extension module.

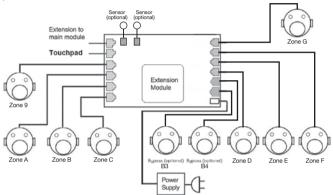


Figure 2: AirTouch 4 with Extension module and 8 Zone ports.

If there is another gateway for another AC, it will be connected to Modbus line. Maximum four gateways can be connected for one AirTouch 4 to control four AC's. Please see AC wirings for details in section 6.

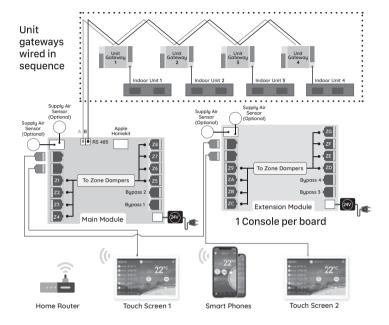
Main and extension modules can be in different locations and connected via a cable with left latched plugs on both ends. Console is connected to the 'T' port on main module.

Up to two consoles can be joined in a system. One will be connected to the main module and the other to the extension module. One screen is set to Master (1) and the other is set to Slave (2) .

Figure below shows the linking of the main module to the extension module, AC unit, consoles, wireless sensors and smart phone.

### Note:

Install the console at least 20mm away from any other wall control to avoid potential interference.



## 3. Pre-Installation

Good planning leads to a successful zone system installation. Before installing and commissioning a zoning system, please complete the following listed tasks:

- 3.1 Decide how many zones (dampers) are to be controlled in the system.
- 3.2 Group zones according to customer's requirements. Each group initially has one zone but can have up to a maximum of four zones (Example: There could be one or more zones going into a common area such as Kitchen/Dining or Family/Dining room). Work out the total group number (Maximum total group number in a system is 16).

NOTE: It is important to test all cables before installation.

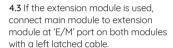
Testing all cables to be used before the start of the installation will save considerable diagnostic time if the fully installed system is subsequently found to have a problem. Cable testing is quick and easy with a Zonemaster Cable tester available from Polyaire.

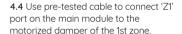


Cable Tester (Item: 657089)

## 4. Components Installation

- 4.1 Mount the main and/or extension modules (if using more than 8 zones) by screwing the boxes to a roof frame or Polyaire Diffusion Fitting (PDF).
- 4.2 Remove the two side covers on the main module. All LEDs and sockets for zone dampers are exposed.





4.5 Repeat step 4.4 to connect other zone dampers to their relevant zone ports on the main and extension modules

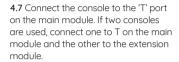


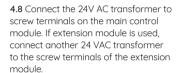






**4.6** Mount the supply air sensor in the supply air duct between the fan coil and the first damper and push the plug of supply air temperature sensor into the socket on the main module.

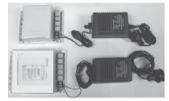




4.9 Connect the main module to the AC unit using the required kit for the respective AC unit (cables and interface board). Follow the wiring diagram for the respective unit provided on Page 33-78 of this manual







4.10 Replace the side covers back on the main control and extension module once finished setting and commissionina.



4.11 Remove the cover of the ITC from the base. Install the base with screws in proper positions where there is no direct sun, no draft and about 1.5m above around. Set the correct group number and identification number (Sub ID) for each sensor. And activate the battery to start the wireless sensor. Then align the cover with the base and click the cover to position to complete the sensor installation

#### 4.12 Fit the Console to wall

The plastic casing of the console consists of two halves. The front cover contains the PCB board along with the LCD/console. The back cover attaches to the wall as a mounting base. During the installation process the case will have to be opened to mount the console on the wall. Follow the steps below to carefully install the console to the wall:

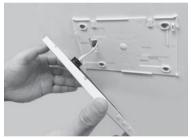
- a. Slide the back base to bottom side to clear the stops on the front cover
- b Remove the base from the front cover.
- c. Position the back base on the wall where the cable is (about 1.5m high from the floor). Ensure it is away from any heat or cool source and mark the cable hale and screw hales

Note: The correct back cover direction is marked on its surface: follow that mark when fixing the back cover.

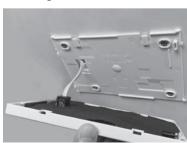
d. Cut the rectangular hole for the cable and fix the back base to the wall by using four screws on the marked positions.



e. Retrieve the console cable (from main control module) out of the cable hole and plug it into the console.



f. Align the bottom edge of the back base with the bottom inside of the front cover and the two side edges of the back base with the front cover.



Continued on next page

a. Gently push the front cover against the wall and make sure the back of front cover is flash against the wall. And then push the front cover downwards with two figures holding the top side of the front cover where there are two slots till the two snap-ons click in.





## 5. Recommended Commissioning Procedure

When the AirTouch 4 is first powered up the Privacu Agreement page will come up. The installer or owner has to garee with the gareement to proceed with commissioning of the sustem. Press the Agree button to proceed. If the Cancel button is pressed the AirTouch 4 will stop and the Android tablet home screen will come up.



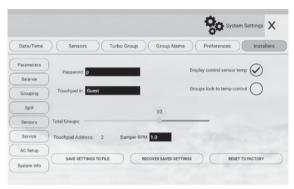
There are two sets of settings, the installer's and user's. In the installer's settings, the followings can be set: parameters balancing sensors spill grouping service and AC. These settings are protected by a password which has default value Polyaire but can be changed. Touching Installer's button in the Settings list will bring up password input page. After inputting the correct password, installer's setting page will come up. In the user's settings which are discussed in User's Manual, the followings can be set: owner name, date/time, group name, WiFi, turbo group, temperature display, touch tone, child lock and temperature alert.



## 5.1 Parameters

### 5.1.1 Console in Group or for AC control

The console sensor can be used for controlling temperature in a group or an AC unit. In this case, it should be assigned to the AC unit or the group where the console is installed.



### 5.1.2 Total Groups in the System

For the purpose of group status display and spill zone calculation, the system needs to know the total number of groups to be installed. The factory default number is 8.

IMPORTANT: This number must be equal to the total group number used in the system as planned in Pre-Installation process. If this is wrong, the system may not work properly.

### 5.1.3 Damper RPM Setting

AirTouch 4 can work with other dampers which are not made by Polyaire. But the damper motors have to meet certain requirements:

Power supplu: 24 VAC

Drive Open and Drive Close

Revolution per Minute (RPM): 0.1 to 2.5

### 5.1.4 Installer Settings Password

The password is used to prevent unauthorized changing of the installer settings. To reset this password, touch the password edit field in the 'Parameter' screen, and then type in the new password and touch 'Enter' key to confirm the password change.

### 5.1.5 Displau AC Control Sensor

The AC control sensor temperature will be displayed under the banner Sensor alongside the AC set point on the home screen if Display Sensor is ticked. It's not ticked bu default.

### 5.1.6 Lock to Group Temperature Control

All groups with temperature sensors will be controlled only by temperature and cannot be switched to percentage control if Lock to Temperature Control is ticked. It's not ticked by default.

### 5.1.7 Reset and Save current system settings

To record all system settings, press Save Settings to File button. After the settings have been saved successfully, it will be stored on the console in the name of AtchV4 Setting Id.txt. Please transfer the settings file to a micro SD card or send it to an email address for permanent storage in case the console is unaccessible.

Use File Manager on the console to access the file under /storage/emulated/0/airtouch.

If the main module has been replaced, the system can be recovered from this file.

After the settings file is stored under the folder /storage/emulated/0/girtouch, press the Recover Saved Settings button to recover.

After successful recovery, the system has to be powered off for at least 30 seconds and then powered back on to use the recovered settings.

If the sustem needs to be reset to factory default settings in some cases, press Reset to Factory. All group names and settings will be back to original factory settings.



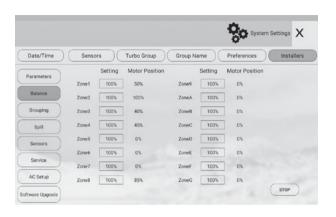
## 5.2 Balancing

Electronic balancing feature of AirTouch 4 offers the flexibility of balancing the amount of airflow to each zone electronically. Once the opening position of the damper is set, the damper will only open to this position. The default setting for each damper is 100% opening position and the adjustable range is between 0 and 100% with 5% increment. The balancing settings can be conducted on the touch screen as below.

- a) On 'Installers' screen, touch Balance menu
- b) Touching the percentage value for the zone to bring up the value input dialog. Confirm the required value to start the balancing process. All zones will open to its balanced position. You can input proper value and check the airflow on the fly till right value reaches.
- Repeat the process for all zones which need balancing. Then touch the Stop button to stop the balancing process.

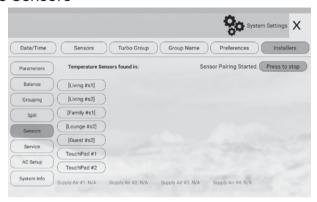
#### NOTE:

 The %OPEN value on the Zoning screen can be operated by the user for additional air flow adjustment to the groups. The overall opening % of the zone is calculated as %OPEN x Balance %.





### 5.3 Sensors



Temperature sensors are used for measuring group temperature and control group temperature and On/Off if required. There are wireless temperatures sensors and wired temperature sensors (on console). Each wireless sensor has dipswitches to assign it to a particular group where it is installed and to be used for temperature control of the group.



Wireless Sensor

Console Sensor

### 5.3.1 Assign a sensor to a group

The console sensor can be assigned to a group where it's installed in Parameter settings. For a wireless sensor open the wireless sensor cover and set the dial of the group dipswitch (with 16 digits) pointing to the group number required. Position 0 is for group 16. If there are more than one wireless sensor for the same group set the group dipswitch to the same position but different sensor ID but switching the Sub ID dipswitch. If the group dial switch or sub ID switch has been changed after pairing it's necessary to re-pair the sensor. Otherwise the change will not be effective

### 5.3.2 Pair main module and wireless sensors (ITCs)

After assigning wireless sensors to relevant groups it's time to pair the sensors. The AirTouch 4 main module and wireless sensors have to be paired to enable communications. When AirTouch 4 is first powered up, start the pairing process on the Sensors page in the Installer's Settings by switching the Pair button to Start then push and hold the button on each of the ITCs to be used in the system to pair. All ITCs will come up and the groups with ITCs will show set points after being paired. Then switch the Pair button to Stop to finish the pairing process.

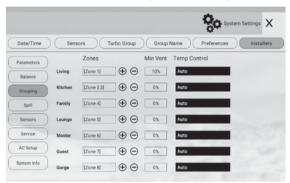
#### 5.3.3 Calibrate a Sensor

If the temperature reading from the sensor is not accurate, it can be calibrated by changing the value in the calibration box on the sensor details page.

## 5.4 Grouping Zones

For ease of control operation, multiple zones can be arouped together. The grouped zones are treated as one group with its own name and turned on or off together. Individual balanced damper position is not affected by grouping, which means zone balancing can be conducted before or after grouping. Grouping can be carried out as follows:

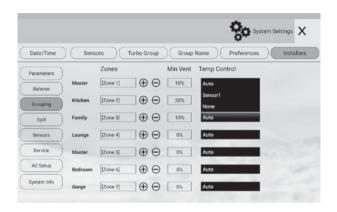
In 'Installers' screen, touch Grouping to enter 'Grouping' screen. a)



- Touch the edit field of the group b)
- and then touch + or button to add or minus zones to the group c)
- d) Repeat steps b) and c) to define all groups

## 5.5 Choosing Group Temperature Control

If more than one sensor is assigned to the same group, options of using different sensor combinations are available in Grouping section. Touch the field after TC to choose a wireless or console sensors as control temperature for the group. If there is no sensor in the group, there will be no list for the group. If there is more than one sensor, there will be a list for selection. The chosen sensor or average of all sensors in the group will be used for controlling the temperature in the group.



If the group has only one temperature sensor, its temperature will be the control temperature for the group. In default, the Auto is selected. The system will automatically choose none, one sensor or average of two sensors when there is no sensor, one sensor or two sensors,

When the group control temperature is activated, all zone dampers in the same group will act against this temperature.

NOTE: The maximum number of zones in a group is four. The zones to be grouped will be consecutive zones. The factory default for grouping is that each aroup has one zone.

## 5.6 Setting Minimum Ventilation

Groups with ITCs can have minimum ventilation settings to meet relevant requirements in light commercial applications. This is done in grouping settings. Go to Grouping page set the Min Vent for each group which has temperature control. When the set point has reached the damper of the group will not be fullu closed but have the set Min Vent opening to circulate the air. But if the group is turned off, the damper will be fully closed. The maximum ventilation is 40%.



## 5.7 Spill or Bupass

Spill or bupass mode is a safetu feature of the AirTouch 4 sustem to prevent pressure from building up and causing duct damage. This usually occurs if someone has turned off all groups while the A/C unit is pumping air into the sustem leading to a pressure build-up (and potential of duct puncture, blow-offs or ioints splitting).

It is designed to automatically open dampers if someone attempts to shut down all dampers thus preventing pressure build up. Spill function opens the groups chosen as spill groups in the system when all groups are being closed. Bypass function opens the bypass damper which connects the supply duct to the return duct directly when all groups being closed. When choosing groups for spill, it is strongly recommended NOT to use bedrooms as spill groups. During sleep time if the air conditioner is on and spill groups are forced to open, the spill groups will be very cold or hot.

The system will maintain the number of groups chosen as spill groups open at any time when AC is running. For instance, there will be at least two aroups open if two aroups are chosen for spill. The first group in the chosen spill group list will open first to spill. The maximum number of spill groups is half of the total groups.



IMPORTANT: Choose at least one group as spill group unless there is a permanent open zone used as spill zone. Otherwise, there will be no spill group when all zones are closed and damage may be caused by high pressure building up inside ducts if air conditioner is running. The Bypass and Spill cannot be set at the same time.

A spill aroup can also be set to hidden and not operational bu users. In Spill setting. ticking Hide Spill Group for the AC will hide the spill groups in this ducted sustem. If the spill aroup is set to hidden, it will not be able to turn on/off, be programed. and be accessed in Favourite settings. But its name can still be changed in Namina from both the console and mobile apps. The aroup will stay fully closed till the spill function is activated for this ducted AC

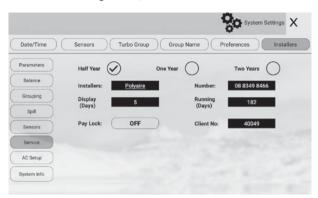
The hidden spill group can be used as a normal spill group to dump the excess air. into a dedicated area. But it will be better used as bupass. In AirTouch 4, its bupass ports can only fully close (bypass not activated) or fully open (bypass activated). This may lead to some issues in some situations when some of the dampers are partially closed and are still demanding air but the bypass condition has met and the bypass damper is fully open. Then some of the partially closed dampers may not get enough air and the groups may not be able to achieve their required temperature. However the spill group will not fully open when the spill condition. meets. The spill dampers will open to certain position to the required total opening percentage. (If one spill group is set, the total required opening percentage is 100%. If two spill groups are set, the total required opening percentage is 200%.) This will ensure other partially closed aroups aet fair share of the air. So if the damper is installed from supply air duct to return air duct directly as bypass and is connected to the hidden spill group port, when the spill condition meets and the spill function is activated, the supplu air will be bupassed to the return air without pickina up heat load from rooms. This will help save energy and ensure all greas can reach their required temperature setting.

## 5.8 Enabling/Disabling Service Reminder

There is a built-in service reminder in the sustem for half uear, one uear and two years to automatically display an alert notifying customers that the air conditioning sustem is due for service. Installers can also use this feature to leave their details such as their names and contact number.

The service reminder will display 'HALF YEAR SERVICE DUE', 'ONE YEAR SERVICE DUE' or 'TWO YEAR SERVICE DUE' and installer's name and contact number on console for the set number of days if it has been enabled for half year (182 days), one year (364) and two years (728 days) respectively since the air conditioning system has been commissioned or serviced. The Running days in the 'Service' screen will automatically reset to 1 after 728 days or can be manually changed. The Service Reminder is disabled by default but can be enabled as follows:

a) In the 'Installer' settings screen touch Service to enter the 'Service' screen.



- b) Touch the service reminder option buttons to enable or disable the relevant reminders.
- Touch the edit field to change to the desired setting. The installer name C) and number can be entered by using a keyboard. Make sure to touch Enter to confirm the input. Touch the number and change Display and Running days via keyboard input.

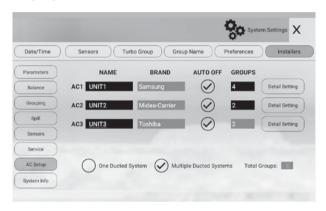
Maximum length of the name is 10 characters and the phone number is 12 digits.

Reminder information will be displayed on the screen when the service is due for the length of display days (5 days in the example). Touch the "x" button on the top right corner of the message box will clear the alert but the message box will come back when the screen wakes up from sleep next time.

To not show the message box before the set display days, tick the Don't Show Again box before closing the message box.

## 5.9 Setting up AC Control

If relevant gateways are connected to the AirTouch 4 main module AirTouch 4 will automatically recognize the connected AC brands. The brands will be listed in inactive color and cannot be changed. But the AC names are still editable. In this case AirTouch 4 will have full control of the ACs such as operation modes fan speeds and set point. The available gateways for the relevant ACs are Daikin, Panasonic Fujitsu Mitsubishi Electric Mitsubishi Heavu Industries Toshiba LG Hitachi Samsuna Carrier Rinnai Actron (Slim) Midea Haier Braemar and Gree. The wiring diagrams for full AC control are on section 6.



#### 5.9.1 Name AC Units

The names of the AC can be edited as required. Touch the name box will bring up keyboard for editing. Touch Enter to confirm the new name. The maximum length of the AC names is 8 characters.

#### 5.9.2 Auto Off

When it's enabled (ticked), the AC will turn off automatically if all groups in this AC are off.

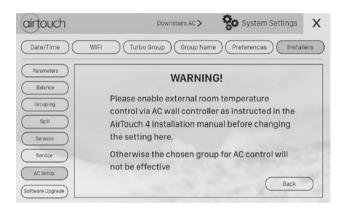
### 5.9.3 AC Detail Settings

The detail settings will have the flexibility to use different sensors for AC control and to configure fan speed options for various AC models and brands.

#### 5.9.4 Choose AC Control Thermistor

In full AC control situation, the AC control temperature can be measured from AC (its wall controller or return air sensor) or groups with temperature sensors. The installer can select one which is better to represent the home temperature for the AC unit AC unit will use this value to take control

Please check the commissioning notes for each model and ensure the AC unit is enabled for remote temperature sensor control. Otherwise, the selected group temperature sensor will not be used for AC control as expected even though the console of AirTouch 4 will show the measured temperature from the group sensor.



### 5.9.5 Configure AC Fan Speed Options

AirTouch 4 can automatically recognise the total fan speed options from the indoor unit in most cases. In rare cases, the installer may need to manually set the fan speed options to match the actual fan speed options of the AC unit. First tick the fan speed names and then change the fan speed matching number. As in the image below, the Low fan speed number may be changed to 1, Medium to 2, High to 3 and Powerful to 4

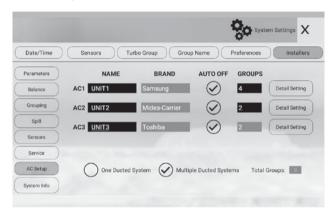


#### 5.9.6 On Duration Time

This setting is to enable AC On duration time. When it's set to a given time (1-8 hours), the AC unit will be on for that period of time since it's turned on and then turn off automatically.

### 5.9.7 Multiple Ducted Sustems

In multiple AC scenarios, the installation may be one ducted system or multiple separate ducted sustems. If multiple ACs supply conditioned air to the same ducted sustem this is classified as one ducted sustem and all ACs will have the same spill and Turbo settings. If each AC has its independent supply and return air ducts it's classified as Multiple Ducted Sustem. In this case each AC will have its own spill and Turbo settings. It's up to the installer to choose one ducted system or multiple ducted sustem.



### 5.9.8 Groups connected in each ducted system

In Multiple ducted sustems, installers have to define the group numbers for each ducted sustem. The group number for each ducted sustem will help protect each system from potential blown-out (by spilling) and set up separate Turbo group. All zones from all ACs will be connected to the main module. If there are more than 8 zones, the zones after 8 will be connected to the extension module in seauential order.

## 5.10 System Info

Touching System Info menu will show current hardware and software versions of the system. If there is a new version of the the software, there will be a red dot on the Quick menu of the homepage. Following the red dot and prompts will bring up the update button for updating.



## 5.11 Setting up Wi-Fi Connection

The WiFi device is with the console which is an Android tablet. Connecting AirTouch 4 to the home router is the same as setting up WiFi for a normal Android tablet. It's in the Setting app on the tablet. If AirTouch 4 is running, minimize it and go to Setting, find WLAN and the available WiFi network will appear. Choose the correct one and key in the password to connect. After successful connection, the Wi-Fi logo will appear on the status bar. AirTouch 4 apps from Apple Store or Play Store can be run from mobile devices now. The connection will stay permanent till the setting changes on the home router such as SSID, password, security levels, filters and others. The connection will automatically resume after power off and on cycle.

## 5.12 Testing Damper On/Off

- a) Switch on the air conditioner.
- b) Enter the home screen of AirTouch 4.
- c) Touch the group buttons to turn groups on or off to check if the dampers are correctly connected by feeling the air at the outlet.
- d) The Turbo group can be tested by selecting the relevant chosen group as Turbo mode in the 'Settings' and then press the group button until active turbo mode is displayed on the screen for that particular group.

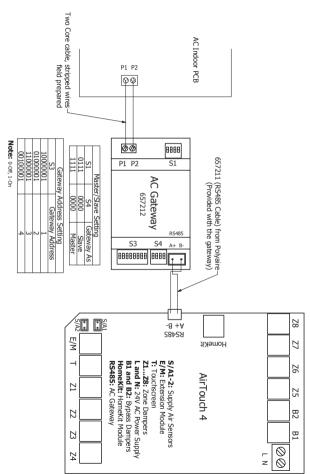
## 6. Wiring Diagrams

- All AC Units must be initialised with Standard AC Wall Controller connected to AC Indoor Unit to complete necessary field settings and confirm the AC runs normally
- Turn OFF power and disconnect Standard AC Wall Controller from AC Indoor Unit if it's not going to be used.
- Refer to relevant AC Gateway Drawings below to connect Gateway.
- Refer to Dip Switch settings (if applicable) on the Gateway Drawings below.
- After completing wiring and setting the dip switches, turn power ON. AC Indoor, Gateway and AirTouch 4 can be powered up at the same time, but power up AC Indoor and Gateway no later than the AirTouch 4.

# **DAIKIN** (657212) Commissioning notes

- 1. Wire AirTouch 4, gateway and AC indoor as per diagram below and leave the dipswitches on the gateway at their default position if the Daikin wall controller is connected as Master. Make sure all wires are connected properly.
- 2 Initialise the AC Unit with Daikin AC Wall Controller connected. The Daikin wall controller can be wired to P1 and P2 in parallel with the gateway.
- 3. If the Daikin wall controller is not going to be used after commissioning and the return air sensor is used for AC temperature control. Turn off power and disconnect the AC Wall Controller from AC Indoor Unit and set position 1 of S1 on the gateway to ON (1). Then restart the AC and gateway first and then power up AirTouch 4. Or power them up at the same time.
- 4. If AirTouch 4 sensors are used for AC temperature control:
- Settings on the Daikin AC wall controller: Set thermostat sensor to the remote controller (Go to Field Setting, find Mode 10 (20), code 2 and change its value to 01 or 03 depending on the wall controller model numbers if there is any doubt please call Daikin to confirm ). Remove it after the setting if the Daikin wall controller is not going to be used after commissioning. Otherwise, set Daikin AC wall controller as sub controller.
- Settings on the gateway: set position 1 and 4 on the gateway to ON (1)
- Settings on the AirTouch 4 screen: Select the proper sensor or combination from the Control Thermistor list for AC control in the Installer's AC setting
- Restart the AC and gateway first and then power up AirTouch 4. Or power them up at the same time.

## **DAIKIN** (657212) Wiring Diagram



# **DAIKIN** (657237) Commissioning notes

- Initialise the AC Unit with Daikin AC Wall Controller connected to set the field settings as required. Turn off power and disconnect the AC Wall Controller from AC Indoor Unit.
- Wire AirTouch, gateway and AC indoor as per diagram and leave the dipswitches on the gateway at their default position if the Daikin wall controller is not connected. Make sure all wires are connected properly. If the gateway address is not 1, follow the Gateway Address Setting table to set dipswitch S1.
- If the gateway is set to Master (default), set the Daikin wall controller to Sub. If AirTouch sensors are used for AC temperature control:

<u>Settings on the Daikin AC wall controller:</u> Make sure the Daikin wall controller is connected as Main. Go to Field Setting, find Mode 10 (20), code 2 and change its value to 03 to set thermostat sensor to the remote controller. Remove it after the setting if the Daikin wall controller is not going to be used. Otherwise, set Daikin AC wall controller as sub controller.

Settings on the gateway: set position 4 of S2 on the gateway to ON (1) (default)

<u>Settings on the AirTouch screen</u>; Select the proper sensor or combination from the Installer's AC setting.

Restart the AC and gateway first and then power up AirTouch. Or power them up at the same time.

4. If Daikin wall controller is to be used with AirTouch as Main, set the gateway to Sub. If AirTouch sensors are used for AC temperature control:

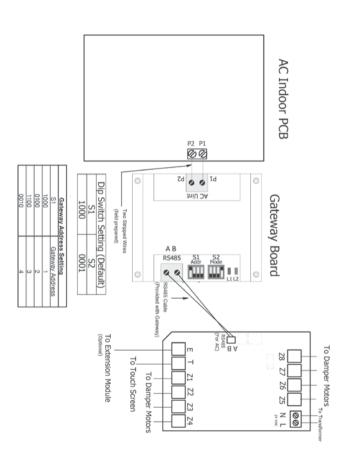
<u>Settings on the Daikin AC wall controller:</u> Go to Field Setting, find Mode 10 (20), code 2 and change its value to 03 to set thermostat sensor to the remote controller.

Settings on the gateway: set position 4 of S2 on the gateway to Off(0)

<u>Settings on the AirTouch screen:</u> Select the proper sensor or combination from the Installer's AC setting

Restart the AC and gateway first and then power up AirTouch. Or power them up at the same time.

### **DAIKIN** (657237) Wiring Diagram



#### Panasonic (657213) Commissioning notes

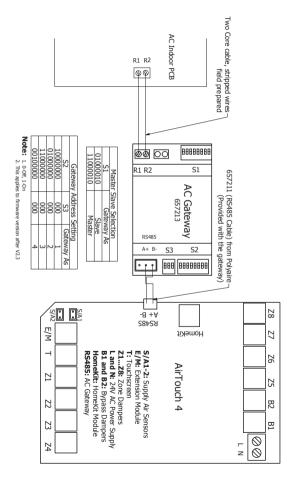
#### Firmware Version After 2.3

Important: It's strongly recommended NOT to use the Panasonic wall controller and the gateway at the same time. It may damage the indoor PCB in long term and in extreme weather conditions

- 1. Wire AirTouch 4. gateway and AC indoor as per digaram below and leave the dipswitches on the gateway at their default position (gateway as Slave). Make sure all wires are connected properlu.
- 2 Initialise the AC Unit with Panasonic AC Wall Controller connected. The Panasonic wall controller can be wired to R1 and R2 in parallel with the aatewau
- 3. Remove the Panasonic wall after commissioning and set the gateway as the Master by switching position one of S1 to On (1)
- 4. If AirTouch 4 sensors are to be used for AC temperature control, go to AirTouch 4 AC setting and select proper sensor/combination.

#### **Panasonic**

### (657213) Wiring Diagram Firmware Version After 2.3



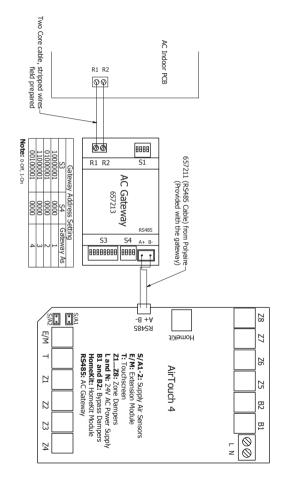
#### Panasonic (657213) Commissioning notes

#### Firmware Version Refore 23

Important: It's strongly recommended NOT to use the Panasonic wall controller and the aateway at the same time. It may damage the indoor PCB in long term and in extreme weather conditions

- 1. Wire AirTouch 4, gateway and AC indoor as per diagram below and leave the dipswitches on the gateway at their default position. Make sure all wires are connected properly.
- 2. Initialise the AC Unit with Panasonic AC Wall Controller connected. The Panasonic wall controller can be wired to R1 and R2 in parallel with the gateway
- 3. Remove the Panasonic wall controller after commissioning
- 4. If AirTouch 4 sensors are to be used for AC temperature control, go to AirTouch 4 AC setting and select proper sensor/combination.

## Panasonic (657213) Wiring Diagram Firmware Version Before 2.3

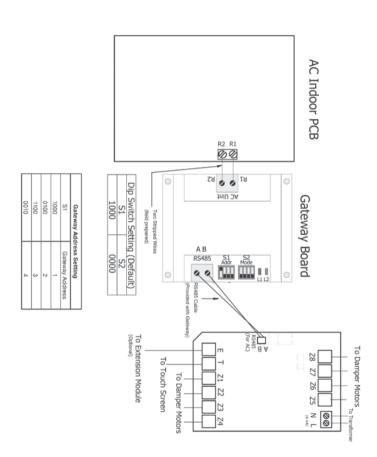


#### Panasonic (657238) Commissioning notes

IMPORTANT: It's strongly recommended NOT to use the Panasonic wall controller and the gateway at the same time. It may damage the indoor PCB in long term and in extreme weather conditions.

- Wire AirTouch, gateway and AC indoor as per diagram and leave the dipswitches on the gateway at their default position. Make sure all wires are connected properly. If the gateway address is not 1, follow the Gateway Address Setting table to set the address.
- Initialise the AC Unit with Panasonic AC Wall Controller connected to do the required field settings. The Panasonic wall controller can be wired to R1 and R2 in parallel with the gateway.
- 3. Remove the Panasonic wall controller after commissioning.
- If AirTouch sensors are to be used for AC temperature control, go to AirTouch AC setting and select the proper sensor.

### Panasonic (657238) Wiring Diagram





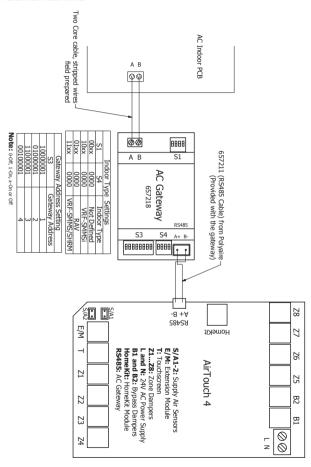
#### (657218) Commissioning notes

- 1. Wire AirTouch 4, gateway and AC indoor as per digaram below and leave the dipswitches on the gateway at their default position. If the indoor unit is a VRF. please set the correct indoor tupe as per the Indoor Tupe Setting table in the wiring diagram. Make sure all wires are connected properly.
- 2 Initialise the AC Unit with Toshiba AC Wall Controller connected. The Toshiba wall controller can be wired to A and B in parallel with the aateway
- 3. Remove the Toshiba wall controller if it is not to be used after commissioning. Otherwise Toshiba's wall Controller should be always set as Follower
- 4. If AirTouch 4 sensors are used for AC temperature control, go to AirTouch 4 AC Setup in Installer's Settings and chose the proper temperature sensor for AC control.



#### (657218) Wiring Diagram

#### AIR CONDITIONING





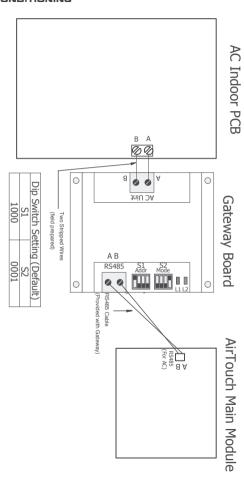
#### (657246) Commissioning notes

- Wire AirTouch, gateway and AC indoor as per diagram on the left and leave the dipswitches on the gateway at their default position. Make sure all wires are connected properly.
- If AirTouch sensor is used for AC temperature control, go to AirTouch AC setting and choose the proper sensor.
- 3. If the gateway address is not 1, please change the S1 setting as below.

S1 Address Setting		
S1	Gateway Address	
1000	1	
0100	2	
1100	3	
0010	4	



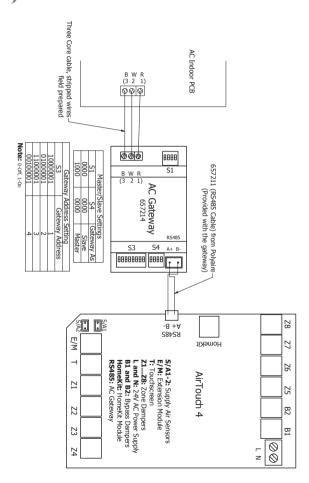
#### (657246) Wiring Diagram



## ITSU (657214) Commissioning notes

- 1. Wire AirTouch 4, gateway and AC indoor as per digaram below and leave the dipswitches on the gateway at their default position. Make sure all wires are connected properlu.
- 2. Initialise the AC Unit with Fuiitsu AC Wall Controller connected. The Fuiitsu wall controller can be wired to B, W and R in parallel with the gateway
- 3. If Fuiltsu wall controller is not to be used after commissioning and the return air sensor is used for AC temperature control, set position 1 of S1 on the gateway to ON (1) and restart the AC and AirTouch 4.
- 4. If AirTouch 4 sensors are used for AC temperature control: Settings on the AC wall controller: Set thermostat sensor to the remote controller (Go to Service->Function Setting, find Function No 42, and set its value to 01. Then go to Submenu and change "R. C. sensor control" from Off to On).
  - Remove the Fujitsu wall controller if it's not to be used after commissioning. Settings on the Gateway: Set position1 of S1 to ON (1) Settings on the AirTouch 4 screen: Go to AC Setup and select the proper
  - temperature sensor for AC control Restart the AC and gateway first and then power up AirTouch 4 or power them up at the same time

# FUJITSU (657214) Wiring Diagram



### FUITSU (657239) Commissioning notes

- Initialise the AC Unit with Fujitsu AC Wall Controller connected to set the required field settings. Then disconnect the AC wall controller if it's not to be used.
- Wire AirTouch, gateway and AC indoor as per diagram and leave the dipswitches on the gateway at their default position. Make sure all wires are connected properly. If the gateway address is not 1, follow the Gateway Address Setting table to set dipswitch S1
- In the case the gateway is master and Fujitsu wall controller is connected as slave (sub) or not connected: If AirTouch sensors are used for AC temperature control:

<u>Settings on the AC wall controller</u>: Have the Fujitsu wall controller connected as Master and set thermostat sensor to the remote controller (Go to Service->Function Setting, find Function No 42, and set its value to 01. Then go to Submenu and change "R. C. sensor control" from Off to On). Then set the wall controller back to Slave (sub) or remove it if it's not to be used.

Settings on the Gateway: Set position 4 of S2 to ON (1) (Default)

<u>Settings on the AirTouch screen:</u> Go to AC Setup in the Installer settings and select the proper temperature sensor for AC control.

Restart the AC and gateway first and then power up AirTouch or power them up at the same time.

If AirTouch sensors are not used and the Fujitsu wall controller is not connected, the AC control sensor has to be set to AC return air sensor. The AirTouch screen will show AirTouch sensors' temperature as Home Temp or Control Sensor value.

In the case the gateway is connected as Slave and Fujitsu wall controller is connected as Master. If AirTouch sensors are used for AC temperature control:

<u>Settings on the AC wall controller:</u> Set thermostat sensor to the remote controller (Go to Service->Function Setting, find Function No 42, and set its value to 01. Then go to Submenu and change "R. C. sensor control" from Off to On).

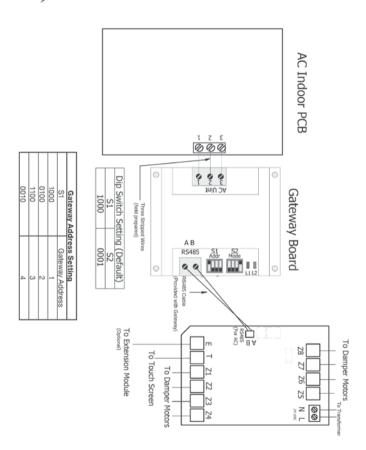
Settings on the Gateway: Set position 4 of S2 to Off (0)

<u>Settings on the AirTouch screen:</u> Go to AC Setup in the Installer settings and select the proper temperature sensor for AC control.

Restart the AC and gateway first and then power up AirTouch or power them up at the same time.

If AirTouch sensors are not used for AC temperature control and the AC is set to use its return air sensor as control sensor, the AirTouch screen will show AirTouch sensors' temperature as Home Temp or Control Sensor value.

# FUJITSU (657239) Wiring Diagram



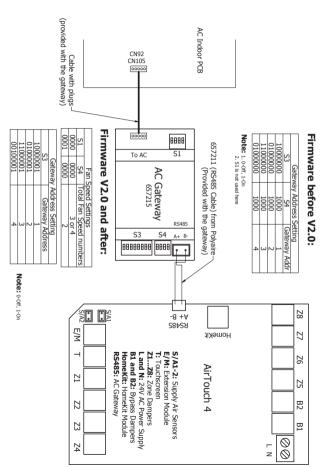


#### (657215) Commissioning notes

- 1. Beware of the different dip switch settings for firmware before 2.0 and after 2.0 (including 2.0)
- 2. Wire AirTouch 4, gateway and AC indoor as per diagram below and leave the dipswitches on the gateway at their default position. Make sure all wires are connected properlu.
- 3 Initialise the AC Unit with ME AC Wall Controller connected
- 4. Remove the ME wall controller if it is not to be used after commissioning. Make sure the AC control temperature is measured from the indoor unit return air.
- 5. Go to AC Setup and select the proper temperature sensor for AC control.



#### (657215) Wiring Diagram





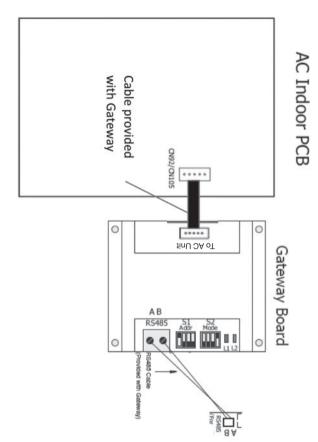
#### (657244) Commissioning notes

- 1. Wire AirTouch, gateway and AC indoor as per digaram and leave the dipswitches on the gateway at their default position. If the gateway address is not 1, follow the Gateway Address Setting table to set dipswitch S1. Make sure all wires are connected properlu.
- 2. Initialise the AC Unit with ME AC Wall Controller connected. Check the AC field settings with the wall controller and make sure the AC control temperature is measured from the indoor unit return air
- 3. Remove the ME wall controller if it is not to be used after commissioning.
- 4. If an AirTouch sensor is used for AC temperature control, go to AirTouch AC setting and choose the AirTouch sensor. Make sure the AC control temperature is set to the indoor unit return air.

Gateway Address Setting		
S1	Gateway Address	
1000	1	
0100	2	
1100	3	
0010	4	



#### (657244) Wiring Diagram



### LG (657219) Commissioning notes

- 1. Wire AirTouch 4, gateway and AC indoor as per digaram below and leave the dipswitches on the gateway at their default position. Make sure all wires are connected properlu.
- Initialise the AC Unit with LG AC Wall Controller connected. The LG wall. controller can be wired to CN-REMO in parallel with the gateway.
- 3. If the LG wall controller is not going to be used after commissioning and the return air sensor is used for AC temperature control: Turn off power and disconnect the AC Wall Controller and set position 1 of S1 on the gateway to ON (1). Then restart the AC and gateway first and then power up AirTouch 4. Or power them up at the same time.
- 4. If AirTouch 4 sensors are used for AC temperature control:

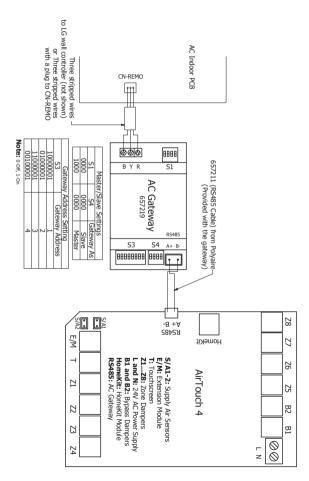
Settings on the LG AC wall controller: Set thermostat sensor in the remote controller (Go to Function Setting (Zone->Setting->Sensor), change it to REMO. Remove it after the setting if the LG wall controller is not going to be used after commissionina.

Settings on the gateway: set position 1 of S1 on the gateway to ON (1)

Settings on the AirTouch 4 screen: Go to AC Setup and select the proper temperature sensor for AC control.

Restart the AC and gateway first and then power up AirTouch 4. Or power them up at the same time.

### LG (657219) Wiring Diagram



#### **MITSUBISHI** HEAVY INDUSTRIES

#### (657216) Commissioning notes

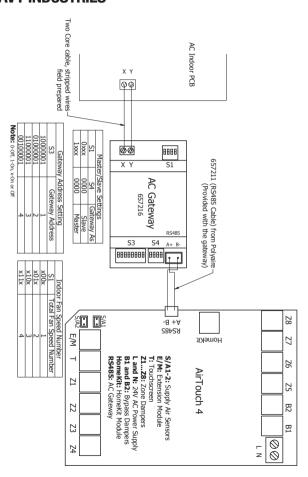
- 1. Wire AirTouch 4 gateway and AC indoor as per diagram in the drawing and leave the dipswitches on the gateway at their default position. Make sure all wires are connected properlu.
- 2. Set positions 2 and 3 of S1 on the gateway as per the table below according to the indoor fan speeds:

Switches of S1 [1 2 3 4]	Binary Value	Description
x off off x	x00x	Indoor unit has 1 Fan Speeds
x off on x	x01x	Indoor unit has 2 Fan Speeds
x on off x	x10x	Indoor unit has 3 Fan Speeds
x on on x	x11x	Indoor unit has 4 Fan Speeds

- 3 Initialise the AC Unit with MHLAC Wall Controller connected. The MHL wall. controller can be wired to X and Y terminals in parallel with the gateway. If the MHI wall controller is not aging to be used after commissioning and the return air sensor is used for AC temperature control: Turn off power and disconnect the AC Wall Controller from AC Indoor Unit, and set position 1 of S1 on the gateway to ON (1). Then restart the AC and gateway first and then power up AirTouch 4. Or power them up at the same time.
- 4. If AirTouch 4 sensors are used for AC temperature control: Go to AirTouch 4 AC setting and choose the proper sensor from the Control Thermistor list on AC setup. MHI aatewau firmware versions: V013 and below will not work BC-FX3 V0.14 and higher works with RC-EX3

#### MITSUBISHI HEAVY INDUSTRIES

#### (657216) Wiring Diagram



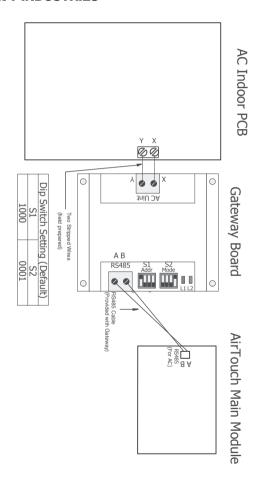
#### **MITSUBISHI HEAVY INDUSTRIES**

#### (657245) Commissioning notes

- 1. Wire AirTouch, gateway and AC indoor as per diagram on the left and leave the dipswitches on the gateway at their default position. Make sure all wires are connected properly.
- 2. If AirTouch sensor is used for AC temperature control: choose the proper sensor.
- 3. If MHI Wall Controller is set to Master, set position 4 of S2 on the gateway to off (0).
- 4. If the gateway address is not 1, please change the S1 setting as below.

S1 Address Setting		
S1	Gateway Address	
1000	1	
0100	2	
1100	3	
0010	4	

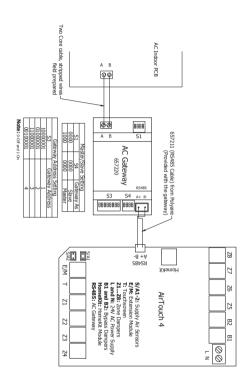
#### **MITSUBISHI** HEAVY INDUSTRIES (657245) Wiring Diagram



### **HITACHI** (657220) Commissioning Notes

- 1. Wire AirTouch 4, gateway and AC indoor as per diagram below and leave the dipswitches on the gateway at their default position. Make sure all wires are connected properlu.
- Initialise the AC Unit with Hitachi AC Wall Controller connected. The Hitachi wall controller can be wired to A and B terminals in parallel with the gateway.
- 3. If the Hitachi wall controller is not going to be used after commissioning and the return air sensor is used for AC temperature control: Turn OFF power and disconnect the AC Wall Controller from AC Indoor Unit, and set position 1 of S1 on the gateway to ON (1). Then restart the AC and gateway first and then power up AirTouch 4. Or power them up at the same time.
- 4. If AirTouch 4 sensors are used for AC temperature control:
- Settings on the Hitachi AC wall controller: Set thermostat sensor to the remote controller (Go to Function Setting, find Item C8, and change its value to 01). Remove it after the setting if the Hitachi wall controller is not going to be used after commissioning. Otherwise, set Hitachi AC wall controller as sub controller (ao to Function Setting, find Item code F2, and set its value to 01)
- Settings on the gateway: set position 1 of S1 on the gateway to ON (1)
- Settings on the AirTouch 4 screen: Select the required temperature sensor from the Control Thermistor list in AC setup in the Installer's settings on AirTouch 4
- Restart the AC and gateway first and then power up AirTouch 4. Or power them up at the same time.
- Note: Availability of AUTO mode in indoor unit depends on indoor unit configuration (configuration is made from Hitachi wall controller). If it's not configured, changing to Auto will be accepted, but indoor unit will continue in previous mode.

### HITACHI (657220) Wiring Diagram





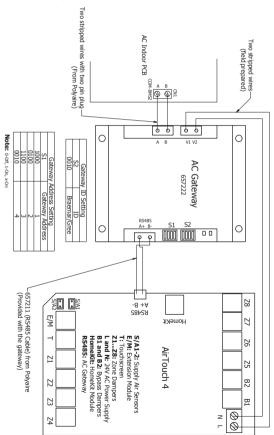
#### (657222) Commissioning Notes

- 1. Wire AirTouch 4, gateway and AC indoor as per diagram below and leave the dipswitches on the gateway at their default position. Make sure all wires are connected properlu.
- 2. Change mode 10 value to 01 via AC Wall Controller.
- 3. If AC Wall Controller is not going to be used after commissioning, change mode 00 value to 01 via AC Wall Controller. Then remove the AC wall controller





#### (657222) Wiring Diagram





#### (657222) Commissioning Notes

- 1. Follow Gree Wall Controller instructions to Set Address Mode to 01 and Remote Control Address to 001
- 2. Press Menu/OK to save and exit.
- 3. If AC Wall Controller is not going to be used after commissioning, change mode 00 value to 01 via AC Wall Controller.

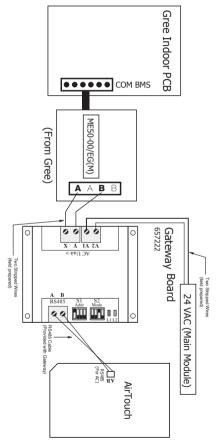
Gateway ID		
S2	ID	
0010	Braemar/ Gree	

Gateway Address Setting		
S1	Gateway Address	
1000	1	
0100	2	
1100	3	
0010	4	

Note: 0-Off, 1-On, x-On



#### (657222) Wiring Diagram





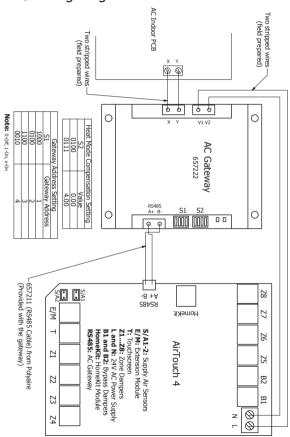
#### (657222) Commissioning Notes

- 1. Wire AirTouch 4, gateway and AC indoor as per digaram below and leave the dipswitches on the gateway at their default position. Make sure all wires are connected properlu.
- 2. Check the temperature compensation value setting (SW6 switch) on the indoor PCB and make sure its value is set to EEPROM DEFAULT as per the instructions on the wiring label at the back of the electrical box cover.
- 3 In default AC will use its own return air sensor as control sensor Installers can set the AC control thermistor to an AirTouch 4 sensor by going to AC setup in Installer's Settinas of AirTouch 4.
- 4. If the sensor on the AC wall controller is used for AC control (Follow Me feature on the AC wall controller), please; Press the Follow Me button on the wall controller to activate Follow Me. The displayed value for home temperature will be the measured temperature where the AC wall controller installed.





#### (657222) Wiring Diagram

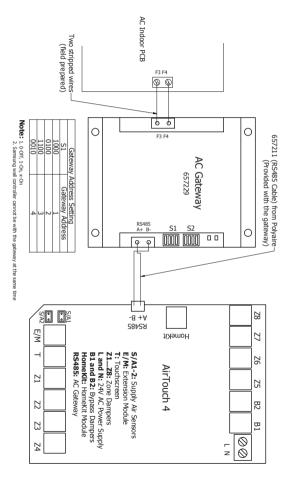


#### SAMSUNG NASA (657229) Commissioning Notes

NOTE: This gateway will only work with units which have 16kW and above capacity with MWR-WE10N wall controller (NASA protocol), Samsuna wall controller cannot be used at the same time.

- 1. Wire AirTouch, gateway and AC indoor as per digaram and leave the dipswitches on the gateway at their default position. Make sure all wires are connected properlu.
- 2. Initialise the AC Unit. If AirTouch 4 sensors are used for AC temperature control:
- Settings on the AirTouch 4: choose from Control Thermistor list in the Installer's AC Setup.
- Settings from the Samsung wall controller: Go to Installation/Service Modes bu pressing and holding ESC and Set buttons together, find Main Menu 1. Submenu 2, and then set Data bit 1 to 1, After the setting, remove the Samsuna wall controller and use the aateway only.
- Restart the AC and gateway first and then power up AirTouch, Or power them up at the same time.

#### **SAMSUNG** NASA (657229) Wiring Diagram



#### No-NASA (657217) SAMSHNG Commissioning Notes

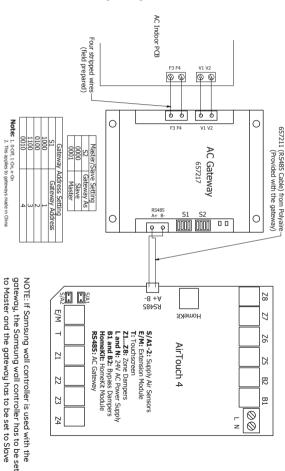
NOTE: This gateway will only work with units which have 14kW and below capacity with wall controller MWR-WE10 (Non-NASA protocol which is used in the latest models with capacity of 14kW and below and some of the old indoor models starting with "NS").

#### Commissioning Notes

- Wire AirTouch 4, gateway and AC indoor as per diagram and leave the dipswitches on the gateway at their default position. Make sure all wires are connected properlu.
- 2. Initialise the AC Unit with Samsung AC Wall Controller connected.
- If AirTouch 4 sensors are used for AC temperature control:
- Settings on the AirTouch screen: choose from Control Thermistor list in the Installer's AC Setup.
- Settings on the Samsung wall controller: Go to Installation/Service Modes by pressing and holding ESC and Set buttons together, find Main Menu 1, Submenu 2 and then set Data bit 1 to 1.
- Restart the AC and gateway first and then power up AirTouch. Or power them up at the same time.

There are two versions of the gateway. They are interchangeable but please follow the wiring as per below:

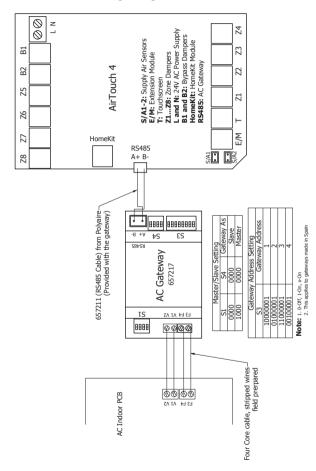
# **SAMSUNG** No-NASA (657217) Wiring Diagram - New Version



by switching position 4 of S2 to 0 (Off). In this situation AirTouch 4 sensors cannot be used for AC Temperature Control.

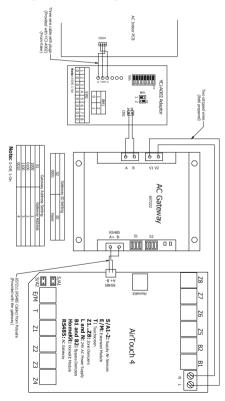
73

#### No-NASA (657217) SAMSUNG Wiring Diagram - Old Version



## Haier

- Wire AirTouch, gateway, YCJ-A002 (supplied by Haier) and AC indoor as per diagram. Make sure all wires are connected properly
- 2. Set the dipswitch settings on the YCJ-A002 and the gateway as shown on the drawing as required
- In default AC will use its own return air sensor as control sensor. Installers can set the AC control thermistor to an AirTouch 4 sensor by going to AC detail setting in Installer's Settings of AirTouch 4.



#### **CBONAIRE**® (657222) Commissioning Notes

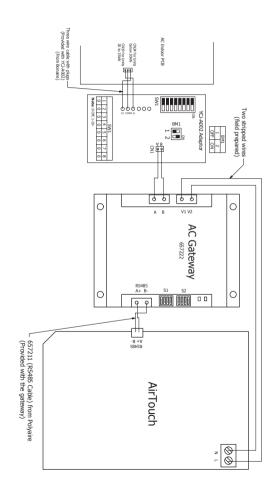
- 1. Wire AirTouch, gateway, YCJ-A002 (supplied by Bongire) and AC indoor as per digaram. Make sure all wires are connected properly
- 2. Set the dipswitch settings on the YCJ-A002 and the gateway as shown on the drawina as required.
- 3. Connect the Bonaire wall controller YR-E17 and power on the AC to make the necessaru field settinas.
- 4. Set dip switch SW03 of the wall controller to On
- 5. Power off the AC and remove YR-E17 if the Bonaire wall controller is not going to be used
- 6. Wire AirTouch, gateway. Bongire interface board and AC indoor as per wiring diagram and set S2 dip switch to 0001. Make sure all wires are connected properly. If the gateway address is not 1, follow the Gateway Address Setting table to set dip switch S1
- 7. If AirTouch sensors to be used for AC control, go to AC setup and choose AirTouch sensors as Control Thermistor

Gateway ID Setting			
S2	ID		
0001	Bonaire		

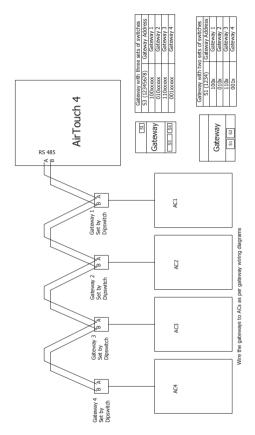
Gateway Address Setting			
S1	Gateway Address		
1000	1		
0100	2		
1100	3		
0010	4		

Note: 0-Off, 1-On

### **BONAIRE®** (657222) Wiring Diagram



#### **Multiple Gateways**



If AirTouch 4 is to control more than one AC unit, gateways for multiple ACs can be joined in serial as shown in the wiring above. Each gateway will be set with a unique gateway address and as required for the AC connected.

#### 7. Downloading and Installing AirTouch 4 **Application on Mobile**

AirTouch 4 application can be downloaded from the following location. The application is available for free of charge.

For Android Phones: Go to Google Play store from your Android phone and search for AirTouch 4 application developed by Polygire. After downloading the application, open the file and follow the prompts to install the application on your phone. The lowest Android version AirTouch 4 app supports is Android 4.0.3.

For iPhones: Go to the App store and search for AirTouch 4 application developed by Polyaire. Tap on the AirTouch 4 app and press Install. Enter your iTunes password and the AirTouch 4 app will be automatically downloaded and installed on your iPhone. The lowest iOS sustem AirTouch 4 app supports is iOS 8.0.

When mobiles and AirTouch 4 are all connected to the same WiFi and with the same band, the AirTouch 4 app will run straight away and the control interface will come up. If the mobiles and AirTouch 4 are not in the same WiFi network. uou'll need internet connection (bu other WiFi or 3G/4G network) and password to run the app. If it's the first time to run the app via internet and the app has not successfully run on the same WiFi network as the AirTouch 4 before, you will need the device ID which is an eight digit number and password to run the app successfullu. The device ID can be found:

- On the console when you get to the Preference setting page
- 2 On the PCB of main module of AirTouch 4

NOTE: Read the User Manual for accessing various functions of the Mobile Apps.

### 8. Troubleshooting

Problem	Solution
Error Code FFFF or FFFC	Gateway is connected but AC is not powered or the communication to AC is lost.
Error Code FFFE	Communication to gateway is lost. Gateway switch setting issue or faulty gateway.



#### Liability and Disclaimer

All specifications and procedures are correct at time of publication, but are subject to change without notice. Please read the instructions before installing this Zone Control System. Polyaire Pty Ltd does not accept any responsibility for loss or damage that may occur as a result of the incorrect installation or operation of this AirTouch Control System.

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